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## NOTICE OF ALLOWANCE AND FEE(S) DUE

86421 7590 10/18/2010

Patent Capital Group - Cisco  
6119 McCommas  
Dallas, TX 75214

EXAMINER

JACKSON, JENISE E

ART UNIT

PAPER NUMBER

2439

DATE MAILED: 10/18/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,402

03/01/2004

Kousik Nandy

CSCO-034 (305764)

2401

TITLE OF INVENTION: [RELIABLY CONTINUING A SECURE CONNECTION WHEN THE ADDRESS OF A MACHINE AT ONE END OF THE CONNECTION CHANGES]

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/18/2011

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

86421 7590 10/18/2010

Patent Capital Group - Cisco  
6119 McCommas  
Dallas, TX 75214

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/708,402 03/01/2004 Kousik Nandy CSCO-034 (305764) 2401

TITLE OF INVENTION: [RELIABLY CONTINUING A SECURE CONNECTION WHEN THE ADDRESS OF A MACHINE AT ONE END OF THE CONNECTION CHANGES]

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	01/18/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
JACKSON, JENISE E	2439	726-014000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,402	03/01/2004	Kousik Nandy	CSCO-034 (305764)	2401
86421	7590	10/18/2010	EXAMINER	
Patent Capital Group - Cisco 6119 McCommas Dallas, TX 75214			JACKSON, JENISE E	
			ART UNIT	PAPER NUMBER
			2439	
DATE MAILED: 10/18/2010				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 849 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 849 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/708,402	NANDY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	JENISE E. JACKSON	2439	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/21/10.
2. ☒ The allowed claim(s) is/are 1-75.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date ____     | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other ____.   |

***Reasons for Allowance***

1. The following is an examiner's statement of reasons for allowance: listed below:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

2. Claims 1-75 are allowable.

3. Prior art fails to disclose or suggest, "wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine", and example of prior art that fails to disclose or suggest these limitations is Bahl. Bahl discloses providing mobility support for a mobile host that is agent-free and maintains session continuity during address changes in a way that is transparent to applications on the communicating hosts (i.e., the mobile and correspondent hosts). When the mobile host (MH) changes its address while communicating over a connection with a correspondent host (CH), the old address is deprecated. Bahl discloses a mobility service of the mobile host then sends an address change notification message over a secured control channel to the correspondent host. Bahl discloses upon receiving the address change notification message, a mobile service of the correspondent host returns an acknowledgment over the control channel and modifies the security filters and transport control parameters corresponding to the connection with the mobile host to use the new address of the mobile host. Bahl discloses the

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address change message and the acknowledgment are delivered through a tunnel set up for the control channel based on the new and old addresses of the mobile host. Bahl discloses after receiving the acknowledgment, the mobile service of the mobile host modifies the security filters and transport control parameters for the connection with the correspondent host to use the new mobile host address. As a result, the connection between the mobile host and the correspondent host has "migrated" to the new mobile host address, and all subsequent traffic between the mobile host and the correspondent host is sent over the migrated connection and secured by the same security associations used prior to the migration. In this way, the continuity of network communication sessions between an application on the mobile host and another application on the correspondent host over the connection is maintained. The migration of the connection between the mobile and correspondent hosts to the new mobile host address is performed without the assistance of an agent and is done seamlessly and transparently to the applications communicating over the connection. Bahl fails to disclose or suggest, "wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine".

4. Prior art fails to disclose or suggest, "wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine", and example of prior art that fails to

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disclose or suggest these limitations is Kroselberg. Kroselberg discloses a security parameter index is contained in the message for each security association contained in the list. Kroselberg discloses each security parameter index is assigned to a security association contained in the list. Kroselberg discloses that the security association is used for determining cryptographic parameters which are used in a cryptographically protected communication link between the first computer and the second computer to be set up using the security association. Kroselberg discloses one security parameter index can be used for a number of security associations, and discloses the security parameter index is clearly a pointer to the data structure which describes the security association. However, Kroselberg fails to disclose or suggest, “wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine”.

5. Prior art fails to disclose or suggest, “wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine”, and example of prior art that fails to disclose or suggest these limitations is Ahonen. Ahonen discloses negotiated SAs are held at the firewall in a Security Association Database (SAD) and at the end of the negotiation process the firewall transfers the SAD from the intranet side interface to the external side interface of the IPsec protocol stack. This makes it possible for the mobile host to make use of the pre-created

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IKE phase 1 and phase 2 SAs from outside of the intranet. Ahonen discloses the mobile host will send a specific formatted authorization certificate to the firewall (if outside the intranet, a temporary secured IPsec channel could be established for this certificate transfer. Ahonen discloses this certificate includes at least a formatted list of identities of the phase 2 SAs that were pre-created during the Quick Mode between the mobile host and the correspondent host. Ahonen discloses the information about each SA in the list could consist of: the Source and Destination IP addresses, the ISAKMP Cookies of the mobile host and the correspondent host (under which the phase 2 negotiation was done), the IPsec protocol ID (AH, ESP), the SPI number of the particular phase 2 SA (incoming and outgoing separated). Ahonen discloses if the source IP address was changed, the firewall will also forward the new Source and Destination IP addresses to the correspondent host, which identifies the appropriate SA via ISAKMP Cookies, IPsec protocol ID, and SPI number, which are also attached to the message. Ahonen discloses now the correspondent host can modify its SAD database to correctly reflect the change of the mobile host's IP address to the new valid one. Ahonen fails to disclose or suggest, "wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine".

6. Prior art fails to disclose or suggest, "wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP



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address update message to the second end machine”, and example of prior art that fails to disclose or suggest these limitations is the Non-patent literature of RFC 3344. RFC 3344 teaches a security parameter index is a security context between a pair of nodes among the contexts available in the mobility security association. RFC 3344 teaches, when away from home, Mobile IP uses protocol tunneling to hide a mobile node's home address from intervening routers between its home network and its current location. The tunnel terminates at the mobile node's care-of address. The care-of address must be an address to which datagrams can be delivered via conventional IP routing. At the care-of address, the original datagram is removed from the tunnel and delivered to the mobile node. RFC 3344 fails to teach or suggest, “wherein the change from the self address to the new address triggers an Internet Security Association and Key Management Protocol (ISAKMP) element to evaluate a SA table to determine selected SAs in a security parameter Index (SPI) list that are bound to the self address, and wherein the SPI list is provided in an outgoing IP address update message to the second end machine”.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENISE E. JACKSON whose telephone number is (571)272-3791. The examiner can normally be reached on Increased Flex time, but generally in the office M-Fri(8-4:30)..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2439

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 8, 2010

/J. E. J./

Examiner, Art Unit 2439

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2439